

IN THE SPECIFICATION

Page 1, before the first line, insert the following paragraph:

--This is a continuation application of U.S. Serial No. 10/083,360, filed February 27, 2002 and is related to application Serial Nos. 10/382,499 and 10/658,465.--

Page 2, the fifth full paragraph, lines 21 to 22, replace the paragraph with:

FIG. 2 is a sectional view, for explanation, of a ~~diffusing~~ diffusion combustion system.

Page 8, the first full paragraph, lines 1 to 10, replace the paragraph with:

A first embodiment according to the present invention will be described hereunder with reference to FIG. 1. In FIG. 1, air 50 sent from a compressor 10 passes between an outer casing 2 and a combustor liner 3. A portion of the air 50 is ~~flown~~ flowed into a combustion chamber 1 as cooling air 31 for the combustor liner 3. Further, remaining air 50 is ~~flown~~ flowed into the combustion chamber 1 as coaxial air 51 from the interior of inner cylinder 2a through ~~an air hole~~ holes 52 in an inner end 52a of the inner cylinder.

Pages 14 and 15, the paragraph bridging these pages from page 14, line 20 to page 15, line 2, replace the bridging paragraph with:

FIGS. 9(a) and 9(b) show a sixth embodiment. This embodiment has a liquid fuel nozzle 68 and a spray air nozzle 69 in the diffusing burner 61 according to the embodiment shown in FIGS. 8(a) and 8(b) so that liquid fuel 66 can be atomized by spray air 65 thereby handling liquid fuel combustion. Fuel 67 is supplied to the liquid fuel nozzle 68. Although, from the aspect of low level NOx emission, not much can be expected from this embodiment, this embodiment provides a combustor that can flexibly operate depending on the fuel supply condition.

Page 1, the third full paragraph, lines 14 to 19, replace the paragraph with:

In a gas turbine combustor, since the turndown ratio from startup to the rated load condition is large, a ~~diffusing~~ diffusion combustion system which directly injects fuel into a combustion chamber has been widely employed so as to ensure combustion stability in a wide area. Also, a premixed combustion system has been made available.

Page 1, the fourth full paragraph, lines 20 to 26,  
replace the paragraph with:

In said prior art technology, a ~~diffusing~~-diffusion combustion system has a problem of high level NOx. A premixed combustion system also has problems of combustion stability, such as flash back, and flame stabilization during the startup operation and partial loading operation. In actual operation, it is preferable to simultaneously solve those problems.

Page 4, the second full paragraph, lines 6 to 11, replace the paragraph with:

(1) In a ~~diffusing~~-diffusion combustion system, as shown in FIG. 2, fuel is injected outward in the vicinity of the outlet of an air swirler arranged at a combustor head portion so as to intersect with a swirling air flow, generating a circulating flow on the central axis, thereby stabilizing a diffusion flame.

Pages 4 and 5, the paragraph bridging these pages, from page 4 line 26 to page 5, line 8, replace the bridging paragraph with:

The ~~diffusing~~-diffusion combustion system shown herein has high combustion stability, while a flame is formed in a area in which fuel and oxygen reach the stoichiometry, causing

the flame temperature to rise close to the adiabatic flame temperature. Since the rate of nitrogen oxide formation exponentially increases as the flame temperature rises, ~~diffusing~~ diffusion combustion generally emits high levels of nitrogen oxides, which is not desirable from the aspect of air-pollution control.

Pages 5 and 6, the paragraph bridging these pages, from page 5 line 9, to page 6, line 7, replace the bridging paragraph with:

(2) On the other hand, the premixed combustion system is used to lower the level of NO<sub>x</sub>. FIG. 3 shows an example wherein the central portion employs ~~diffusing~~ diffusion combustion having good combustion stability and the outer-periphery side employs premixed combustion having low NO<sub>x</sub> emission to lower the level of NO<sub>x</sub>. In FIG. 3, air 50 sent from a compressor 10 passes between an outer casing 2 and a combustor liner 3, and a portion of the air flows into a combustion chamber 1 as cooling air 31 for the combustor liner and combustion gas in the combustor liner, and another portion of the air flows into a premixing chamber 23 as premixed combustion air 48. Remaining air flows into the combustion chamber 1, flowing through a passage between the premixing-chamber passage and the combustor end plate and then through a

combustion air hole 14 and a cooling air hole 17. Gaseous fuel 16 for ~~diffusing~~-diffusion combustion is injected into the combustion chamber 1 through a diffusion fuel nozzle 13 to form a stable diffusion flame 4. Premixing gaseous fuel 21 is injected into the annular premixing chamber 23 through a fuel nozzle 8, being mixed with air to become a premixed air fuel mixture 22. This premixed air fuel mixture 22 flows into the combustion chamber 1 to form a premixed flame 5. Generated high-temperature combustion gas is sent to a turbine 18, performs its work, and then is exhausted.

Page 7, the third full paragraph, lines 18 to 24, replace the paragraph with:

Furthermore, it is possible to ensure the combustion stability by supplying fuel to only a part of the system during the gas turbine startup operation and partial loading operation thereby causing the fuel to become locally over-concentrated and burning the fuel in the mechanism similar to the ~~diffusing~~-diffusion combustion which utilizes oxygen in the ambient air.

Page 15, the third full paragraph, lines 18 to 26,  
replace the paragraph with:

FIG. 11 shows an eighth embodiment. In this embodiment, each fuel nozzle of the embodiment shown in FIGS. ~~5(a)~~9(a) and ~~5(b)~~9(b) is made double structured so that liquid fuel 66 is supplied to an inner liquid-fuel nozzle 68 and spray air 65 is supplied to an outer nozzle 81. This arrangement allows a large number of coaxial jets to be formed when liquid fuel 66 is used, thereby realizing low NOx combustion where there is very little potential of flash back.